manifestations (heart failure, infective endocarditis and hemolytic anemia). The patients were followed up for 23 months, from January of 2011 to December of 2013. All the patients went through surgical repair or percutaneous leak closure (Amplatzer AVP II). Primarily, we analyzed the epidemiological data related with paravalvular prosthetic regurgitation; sequentially the patients were divided into two treatment groups, percutaneous leak closure or surgical repair. Finally we analyzed the clinical outcomes during hospitalization and up to 1 year.

RESULTS The median age at the time of diagnosis was 54 ± 14 years, 71.4% of whom were men. The mitral valve had a higher incidence of paravalvular leak (60%) and was more common in biological valve prostheses (51.4%). We report 10 patients (28.6%) in the percutaneous leak closure group, and 25 patients (71.4%) in the surgical repair group. The percutaneous leak closure group had patients of higher risk, older patients (63 ± 13 vs. 54 ± 14, p=0.011), higher prevalence of diabetes (30% vs. 0%, p= 0.018), increase number of previous surgeries (2.6 ± 1 vs. 1.72 ± 0.7, p=0.04) and lower creatinine clearance (Cockcroft-Gault Equation) (72 ± 38 vs. 90 ± 38, p=0.07). The clinical presentation was heart failure class III by New York Heart Association classification (40%) and hemolytic anemia (42%). During hospitalization we report 74.3% of complications in the both groups, the surgical repair group had more bleeding complications (48% vs. 30%, p=0.45) and infection (36% vs. 10%, p=0.21), however this complications did not have statistical significance when clinical outcomes were analyzed between the groups. At 1 year follow up, mortality (0% vs. 20%, p=0.08) did not have statistical significance.

CONCLUSIONS Symptomatic paravalvular prosthetic regurgitation is an uncommon yet serious complication more associated with mitral valve and biological prostheses. Surgical repair is the best treatment option; however percutaneous leak closure is a promising treatment in high risk patients. There is a need of development of new devices for this pathology. Our study showed no difference in clinical outcomes between the two groups; however we did not have a large number of patients.

CATEGORIES STRUCTURAL: Valvular Disease: Other

KEYWORDS Paravalvular leak, Paravalvular leaks

TCT-720

Transfemoral Closure of Mitral paravalvular leak in the presence of metallic aortic valve

Pilar Jimenez-Quevedo,[1] Luis Nombela-Franco,[2] Corina Biagioni,[3] Guillermo E. Morrison-Polo,[4] Carlos Almería,[5] Barbara Das Neves,[6] Eulogio J. Garcia[7]
[1]Hospital Clinico San Carlos, Madrid, Spain; [2]Cardiovascular Institute, Hospital Clínico San Carlos, Madrid, Madrid; [3]Hospital Clinico San Carlos, Madrid, Madrid; [4]Hospital Clínico San Carlos, Madrid, Madrid; [5]Clinico San Carlos Hospital, Madrid, Spain; [6]Hospital Clinico San Carlos, Madrid, AK; [7]Hospital Universitario Madrid Monteprincipe, Madrid, Spain

BACKGROUND The Use of retrograde femoral access to close Mitral Paravalvular Leakage (MPVL) in patients with the combination of aortic and mitral metallic prostheses has considered contraindicated. The aim of this study was to assess the safety and feasibility of Percutaneous Closure of MPVL in patients with double aortic and metallic prostheses.

METHODS Consecutive patients with double prosthesis (DP) who underwent percutaneous MPVL closure in our institution were included. Anterograde and retrograde approach consisting of crossing the wire across the aortic prosthesis in order to access and cross the perivalvular mitral leak were used. Arterious venous loop (AVL) were also performed in all cases but one. The device used in all interventions were Amplatzer Vascular Plug III. Immediate and midterm follow-up results were analyzed.

RESULTS From February 2009 to December 2014, 56 patients underwent MPVL in our institution. Twenty five patients (44.6%) had double prosthetic mitral and aortic valve (DP). Mean age was 69 ±11. 40% were male. The mean clinical follow up was 416.5±323.1 days Retrograde approach with AVL was performed in 17 patients (68%). All procedures were hemodynamically well tolerated. Technical success rates were 88%, (2 patients needed two procedures). One patient had device embolization that was percutaneously captured and a second device was successfully implanted in the same procedure and 1 patient needed emergency surgery due to disc interference. At follow-up 50% of the patients presented significant NYHA functional class improvement. Seven patients (28%) died during follow-up due to persistent cardiac failure.

CONCLUSIONS Percutaneous Closure of MPVL in patients with double aortic and mitral prosthesis can be done safely considering few tips are taking into consideration during the procedure.

CATEGORIES STRUCTURAL: Valvular Disease: Mitral

KEYWORDS Leaks

TCT-721

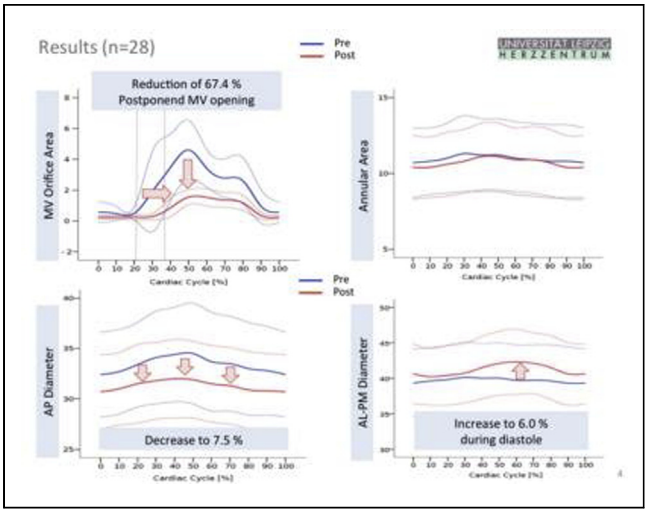
Four-Dimensional Analysis Of Mitral Valve Geometry Before And After Percutaneous Edge-to-Edge Mitral Valve Repair

Thilo Noack,[1] Linda Mallon,[1] Philipp Kiefer,[1] Carmine Bevilaqua,[1] Jörgen Banusch,[1] Fabian Emrich,[1] David M. Holzhey,[1] Joerg Ender,[1] Holger Thiele,[1] Friedrich-Wilhelm Mohr,[1] Joerg Seeburger[1]
[1]Heart Center Leipzig University, Leipzig, Germany

BACKGROUND Percutaneous treatment of mitral regurgitation (MR) is an option for patients facing a high operative risk. The influence of percutaneous edge-to-edge mitral valve repair (PMVR) on the mitral valve (MV) geometry is not yet clearly understood. We herein in present a novel four-dimensional echocardiography based computational model to assess morphologic MV changes during the complete cardiac cycle before and after edge-to-edge MV repair.

METHODS Twenty-eight consecutive patients (mean age 77 ± 8 years) underwent elective PMVR for mitral regurgitation with the MitraClip® device. Periprocedural RT3DTEE data were analyzed using a semi-automated MV modeling software (eSie Valves™) focusing on MV orifice area, commissural diameter, antero-posterior diameter, anterolateral-posteriomedial diameter, annular area, annular circumference and annular height throughout the entire cardiac cycle in 10% steps.

RESULTS PMVR led to a reduction in MV orifice area (4.6±1.9 and 1.5±0.5 cm2; P<0,001) and a postponed opening of the MV leaflets in diastole (20 and 35% of cardiac cycle). The anterior-posterior diameter was reduced significantly (34.5±5.0 and 31.9±3.8 mm; P<0.001) whereas the anterolateral-posteromedial and commissural diameter increased in diastole (39.7±5.0 and 42.3±4.6 mm; P<0,001 and 38.8±4.9 and 41.0±4.3 mm; P<0,001), respectively. No significant changes were detected for annular area, annular circumference and annular height.



CONCLUSIONS Four-dimensional analysis after PMVR depicts significant changes in the MV geometry. Furthermore not yet detected changes of MV opening and closing are presented. To the best of our knowledge this is the first 4-dimensional analysis of MV before and after PMVR.

CATEGORIES STRUCTURAL: Valvular Disease: Mitral

KEYWORDS Echocardiography transesophageal, 3-dimensional, Mitraclip, Percutaneous mitral valve repair